

Date: Monday, 18/08/2008 3:37:09 PM  
 User: Julie Lecocq

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: BEARPAW KIT (23"X19")
Job Number	: 41325		
Estimate Number	: 12619		
P.O. Number	:	Part Number	: D105645011
This Issue	: 18/08/2008 S.O. No. :	Drawing Number	: D2421 REV F2
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: / / Type : MACHINED PARTS	Drawing Revision	: F2
Previous Run	:	Material	:
Written By	:	Due Date	: 20/09/2008 Qty: 2 Um: Each
Checked & Approved By	: <u>JLD 08-8-18</u>		
Comment	: Est Rev:A New Issue 07-01-03 JLM		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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JLD 08/9/16



## Comment: DOCUMENT CONTROL

(1) D105-645-011 Kit consists of Qty (2) D2421

Photocopy bluefile and create labels per PPP D105-645-011 CHG003

2.0	MFG ENGINEERING	MFG ENGINEERING
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## Comment: MFG ENGINEERING

Program Batch Number

JLD 08-09-19

3.0	MUHMWB10	UHMW 1" Black
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## Comment: Qty.: 6.8404 sf(s)/Unit Total: 13.6809 sf(s)

Cut 2 blanks per (1) K10010 Kit

Cut blank: 19.50" x 23.50" x 1.00" thick (+0.030/-0.000) per DSK086-4

Material: Black UHMW 1"

(MUHMWB10)

Batch: M 108645

M.A 08/09/28

4.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
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## Comment: HAAS CNC VERTICAL MACHINING #1

Note: (2) bearpaws for (1) Kit

1-Inspect material for defects or damage prior to machining

2-Machine as per Folio FA124 and Dwg D2421

Identify as D2421

3-Deburr

M.A 08/09/28

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 18/08/2008 3:37:09 PM  
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Job Number: 41325

Part Number: D105645011

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

J. A 08/09/28

6.0

QC8

SECOND CHECK



Comment: SECOND CHECK

JP 08/10/29

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1  
Pick Packing Kit

8.0

D2182B060

Clamp Cushion



Comment: Qty.: 4.0000 Each(s)/Unit Total : 8.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

4 D2182B060 Rubber Cushion

39986

Boxed  
is not  
a ramp

PTC

JS 08/10/01 (2)

9.0

D2274

Radius Block



Comment: Qty.: 8.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

8 D2274 Radius Block

39238

JS 08/10/01 (2)

10.0

D2519

Clamp



Comment: Qty.: 4.0000 Each(s)/Unit Total : 8.0000 Each(s)

Clamp

Pick: Packing Kit

(Note: D2421 is on the BOM as material from step 3)


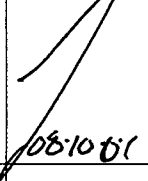

Qty Part Number Description Batch

4 D2519 Clamp

34306

JS 08/10/01 (2)

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
08-10-01	8.0	D2182B060 is required, change the part # in the comment section.		08/10/01		 08-10-01	 08-10-01

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BEARPAW KIT (23"X19")

Job Number: 41325

Part Number: D105645011

Job Number:



Seq. #:

Machine Or Operation:

Description :

11.0

D2529

Washer



Comment: Qty.: 8.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

8 D2529

Washer

B35356

12.0

AN415A

Bolt



Comment: Qty.: 8.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

8 AN4-15A

Bolt

M108077

13.0

AN960JD416

Washer



Comment: Qty.: 8.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

8 AN960JD416

Washer

M108161

14.0

MS21042L4

Nut



Comment: Qty.: 8.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

8 MS21042L4

Nut (or -4)

M108145

15.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

16.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D105-645-011

Location:

Draft

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Drawing Name: BEARPAW KIT (23"X19")

Job Number: 41325

Part Number: D105645011

Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

QC21

FINAL INSPECTION/W/O RELEASE



08/10/03 *[Signature]*

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



*h 08.10.02*

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 41325
<b>Description:</b> Bearpaw		<b>Part Number:</b> D2421
<b>Inspection Dwg:</b> D2421	<b>Rev:</b> F2	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST




☒ First Article
 ☐ Prototype

Inspection Sheet Drawing Dimension		Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
A	0.20	+/-0.030	0.203	✓			
B	0.95	+/-0.030	0.949	✓			
C	0.45	+/-0.010	0.450	✓			
D	0.07 x 45°	+0.030/-0.010	0.060 x 45°	✓			
E	0.69	+/-0.030	0.697	✓			
F	0.38	+/-0.010	0.380	✓			
G	0.44 - 0.47	+/-0.000	0.457	✓			
H	R0.25	+/-0.030	R0.25	✓			
I	0.19 x 45°	+/-0.030	0.183 x 45°	✓			
J	23.00	+/-0.030	23.00	✓			
K	Ø0.260	+0.005/-0.000	Ø0.260	✓			
L	Ø0.93	+/-0.030	Ø0.928	✓			
M	0.30	+/-0.030	0.305	✓			
N	4.50	+/-0.030	4.50	✓			
O	9.50	+/-0.030	9.50	✓			
P	1.00	+/-0.030	0.998	✓			
Q	14.750	+/-0.010	14.750	✓			
R	0.38	+/-0.030	0.379	✓			
S	4.54	+/-0.010	4.541	✓			
T	19.00	+/-0.030	19.00	✓			

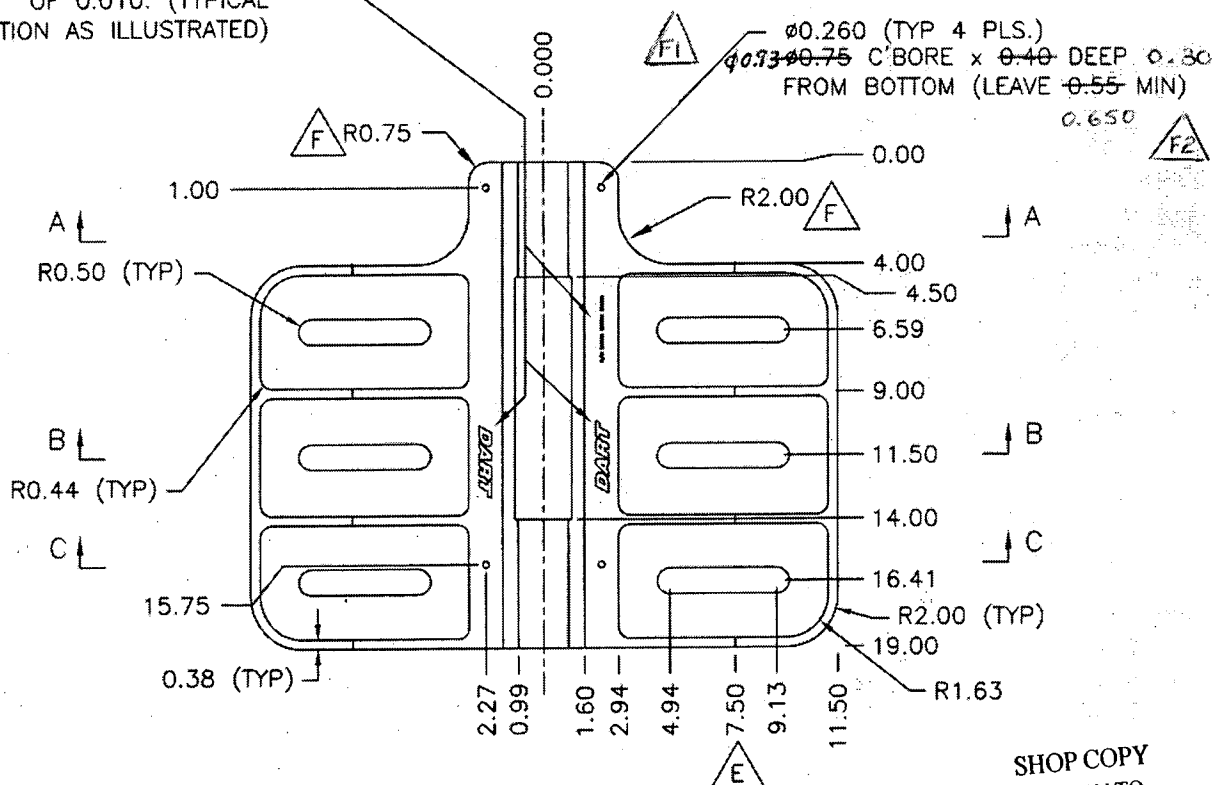
<b>Measured by:</b> M.A	<b>Audited by:</b> [Signature]	<b>Prototype Approval:</b> N/A
<b>Date:</b> 08/09/28	<b>Date:</b> 08/10/01	<b>Date:</b> N/A

Rev	Date	Change	Revised by	Approved
A	03.09.22	New Issue P/O K10010	KJ/RF	
B	04.11.29	Revised dimension M	KJ/JLM	[Signature]



DESIGN 		DRAWN BY 		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED RF		APPROVED 		DRAWING NO. D2421 REV. F SHEET 1 OF 2	
DATE 01.03.12		TITLE BEARPAW		SCALE 1:7	
A	95.04.24	NEW ISSUE			
B	95.11.28	CHANGED NUMBER OF HOLES			
C	97.06.19	ADDED MATERIAL SPECIFICATION			
D	98.08.11	DIM MODIFICATIONS			
E	00.03.01	R1.77 WAS R2.66; ADD R1.85 BORE RELIEF FOR CLAMPS; ADDED DEO 9155			
F	01.03.12	MODIFY FWD END			
F1	<del>RF</del> 03.01.13	<del>Ø 0.93 WAS Ø 0.75 ; R0.19 WAS R0.38 ;</del> <del>0.19 WAS 0.25</del>			
F2	<del>RF</del> 04.11.03	0.30 WAS 0.40 ; 0.650 WAS 0.55			

ENGRAVE DART LOGO TO  
MAX DEPTH OF 0.012.  
ENGRAVE PART AND BATCH  
NUMBERS TO MAX DEPTH  
OF 0.010. (TYPICAL  
LOCATION AS ILLUSTRATED)



SYMMETRIC ABOUT CENTER LINE

MATERIAL: UHMW BLACK PER SPEC CONTROL DRAWING D2689,  
1.00" THICK (MACHINE TO 0.950)

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 41325

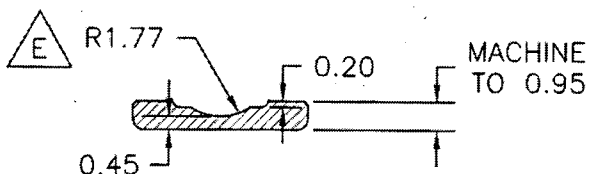
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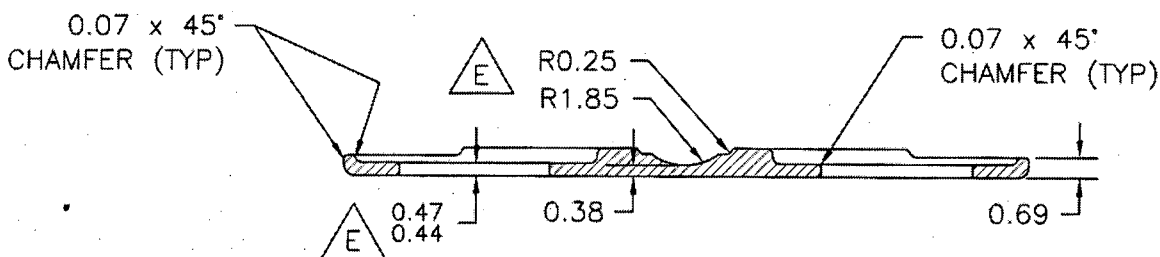


DESIGN #	DRAWN BY #	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED RF	APPROVED #	DRAWING NO. D2421	REV. F SHEET 2 OF 2
DATE 01.03.12		TITLE BEARPAW	SCALE 1:6

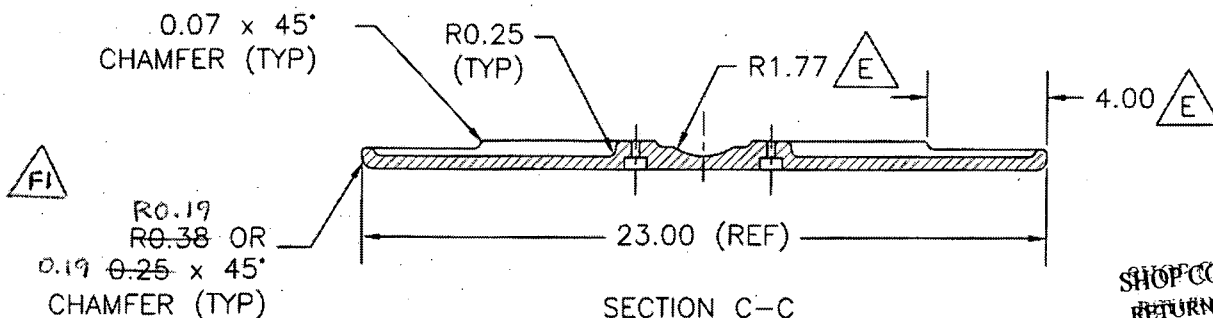
RELEASED  
01.03.14 #



SECTION A-A



SECTION B-B



SECTION C-C

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WORK ORDER  
NO 41325

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**4. WEIGHT AND BALANCE**

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D105-645-011 Bearpaw on Configuration 1/ 2	13.8 lb 6.3 kg	0.0 in 0.0 m	0.0 in-lb 0.0 m-kg	148.7 in 3.78 m	2052.1 in-lb 23.81 m-kg
D105-645-011 Bearpaw on Configuration 3	13.8 lb 6.3 kg	0.0 in 0.0 m	0.0 in-lb 0.0 m-kg	147.1 in 3.74 m	2030.0 in-lb 23.56 m-kg

**5. PARTS LIST**

Qty	Part Number	Description
X	D105-645-011	BEARPAW INSTALLATION
4	D2182B060	RUBBER CUSHION <i>CL</i>
8	D2274	RADIUS BLOCK
2	D2421	BEARPAW
4	D2519	CLAMP
8	D2529	WASHER
8	AN4-15A	BOLT
8	AN960JD416	WASHER
8	MS21042L4	NUT (OR MS21042-4)

Revision: **B**  
Date: 00.02.28